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ABSTRACT

Following a brief discussion on the concept of teacher incentives, several types of teacher incentive research are described in relation to the Schools and Staffing Survey (SASS) of the National Center for Education Statistics. Original national data from SASS relating to teacher incentive pay programs are reported. The three types of studies of teacher incentives that can be investigated using SASS are discussed: (1) the study of incentive effects on teachers' behavior; (2) the study of pay incentive programs for teachers; and (3) the study of teacher attitudes toward these pay incentive programs. Tables display SASS data on: teacher recipients of pay incentives (public and private sectors); public school teacher favorability ratings of pay incentives; and private school teacher favorability ratings of pay incentives. The description of SASS and the preliminary findings on pay incentives for teachers indicate that this data base is a major resource for studying teacher incentive phenomena of particular importance to education policy makers and administrators. (JD)

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TEACHER INCENTIVE RESEARCH WITH SASS^{1,2}

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²The results presented in this paper are from the new NCES Schools and Staffing Survey. Although they have undergone initial review, they should be viewed as preliminary since additional processing to impute for missing values, etc., is yet to be done. NCES believes that the general patterns seen will continue to hold when the data are finalized, though individual numbers may change.

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Introduction

The 1988 Schools and Staffing Survey (SASS) of the National Center for Education Statistics (NCES) is capable of supporting several types of teacher incentive research. Following a brief development of the incentive concept, several types of teacher incentive research will be described in relation to the SASS data base. Finally, original national data from SASS relating to teacher incentive pay programs will be reported.

SASS is a large-scale nationally-representative sample survey of teachers, principals, schools, and teacher demand and shortage at the elementary and secondary levels in both the public and private sectors. The national SASS sample included approximately 52,000 teachers from public schools and 13,000 teachers from private schools. An overview of SASS was presented by Boe (1990), and detailed descriptive information is available from NCES.

The Incentive Concept

In defining the concept of "incentive," it is helpful first to distinguish between (a) rewards and (b) incentives. Specifically, the definition of reward includes three elements:

1. A generally desirable object or condition (e.g., food, money, public recognition, positive student feedback, and the like);
2. A specified response or performance; and
3. A principle or rule under which the acquisition of a desirable object or condition follows and is contingent upon a specified response (i.e., a response/outcome contingency).

Based on these three elements, reward is defined as the response-contingent acquisition of a desirable object or condition. In addition to the three elements defining reward, the definition of incentive includes two further elements:

4. Knowledge by the performer of the response/outcome contingency; and
5. A subsequent increase in the strength or quality of the response upon which the outcome is contingent (i.e., an incentive effect).

Based on all five elements, incentive is the prospect of reward which energizes (i.e., increases) goal-directed behavior. This impact on goal-directed behavior is termed an incentive effect.¹

In addition to the distinction made here between incentive and reward, it is useful to distinguish also between (a) incentive as a noun and (b) incentive as commonly used as an adjective. Specifically, the use of the term "incentive" as an adjective (as in incentive policy) does not imply that an "incentive effect" has been demonstrated empirically. The use of "incentive" in labeling policies and programs simply means that they are of the type which is intended to produce an incentive effect on performance as distinguished from the actual demonstration of such an effect.

Types of Teacher Incentive Studies with SASS

There are three types of studies of teacher incentives that can be investigated using SASS. These are:

1. The study of incentive effects on teacher behavior;
2. The study of pay incentive programs for teachers; and
3. The study of teacher attitudes toward these pay incentive programs.

The most useful of these types of incentive studies to educational policy makers and administrators is probably the first, the study of incentive effects on teachers behavior, since they are primarily concerned with a broad range of influences on the composition of the teaching force and on teaching performance. SASS, however, is an existing data base and therefore does not permit experimental manipulation of incentive variables to study their effect on performance. In order to study incentive phenomena with SASS data, it is first necessary to identify variables which represent generally desirable conditions for teachers (e.g., higher salaries) that are contingent upon a teacher response (e.g., decision to transfer to a different

¹For simplicity here, the focus has been on reward-based incentives. A parallel development for sanction-based incentives is made elsewhere by the author, as well as for the related topic of disincentives (Boe, 1989).

school system). These desirable conditions must be consequents of performance, not antecedents.

The identification of generally desirable conditions can be approximated from either common knowledge or from prior research. For example, acquisition of money is typically regarded a generally desirable condition. Its possible incentive effect can be examined if we know that its acquisition is contingent upon a performance. As another example, past research has shown that students of high ability are regarded by teachers as a generally desirable condition for teachers. The possible incentive effect of this condition can likewise be examined if the opportunity to work with high ability students is contingent upon a teacher's decision to secure a teaching assignment with such students.

The study of teacher pay incentive programs and their attitudes toward them is also of obvious interest to educational policy makers and administrators. Pay incentive programs have been instituted in many localities to promote teacher professional development and to deal with problems of teacher shortages in urban and rural areas. SASS provides national data on the number of teachers benefiting from such programs. Furthermore, the utility of pay incentive programs in influencing teacher behavior (i.e., in producing an incentive effect) may well depend on the degree to which teachers view these programs in a favorable light. SASS provides national data on this topic as well.

The three types of teacher incentive studies listed above will be next considered in turn.

Incentive Effects on Teacher Behavior

Two broad categories of teacher behavior of great importance to the field of education are (a) career decisions (i.e., decisions to enter teaching, to change teaching assignment, to remain in teaching or to leave the profession), and (b) instructional performance in the classroom.² Because of its content, SASS

²In their review of incentive literature, Mitchell, Ortiz and Mitchell (1987) distinguish between motivation to participate in a work group or organization and to perform the tasks required of a specific job. Teacher career decisions are of the first type, while instructional performance is of the second.

permits extensive study of possible incentive effects on the first of these two categories (i.e., teacher career decisions), but it does not permit study of quality or style of instructional performance.³ Therefore, the focus below is on using SASS to study incentive effects on teacher career decisions.

The identification and study of incentive effects on teacher career decisions is very important because the attraction, distribution, and retention of qualified teachers are major issues confronted by educational administrators and policy makers. For example, shortages of qualified teachers in areas such as science, special education, and bilingual education are well known, and policy makers create and fund incentive programs for the purpose of attracting and retaining them.

In studying incentive effects on teacher career decisions, it is desirable to distinguish also between (a) policy-based incentives and (b) incentives that are inherent⁴ in "the nature of things and circumstances." Both are external to a person and therefore observable. The difference is whether or not the incentive for teachers is manipulated by policy (e.g., incentive pay) or is inherent in the natural flow of events (e.g., positive student feedback).⁵ As described below, both policy-based and

³A few SASS items are related to the volume of instructional performance, such as the number of students taught and hours spent on various school-related activities.

⁴The concept of an inherent incentive should be distinguished from that of the widely used notion of intrinsic rewards (e.g., Mitchell, Ortiz, and Mitchell, 1987). Inherent incentives are naturally-occurring aspects of the observable environment which have an incentive effect on behavior, while intrinsic rewards are typically defined as subjective or psychic satisfactions.

⁵The distinction between policy-based and inherent incentives is not always clear. Is a relatively low average class size a policy-based incentive for attracting teachers, or is this established to enhance the quality of instruction? In the latter event, low class size might serve as an inherent incentive for attracting teachers. To be clear, a policy-based teacher incentive is one established by a policy authority with the clear intent that it produce a desired incentive effect on teacher behavior. Under other conditions, incentives are classified as inherent. Given

inherent incentives for teacher career decisions can be investigated in the SASS data base.

Policy-based teacher incentives, such as the provision of extra pay for teaching in a shortage area (e.g., science), are intentionally manipulative in that they attempt to increase the rate at which teachers make positive career decisions. In other words, they are intended to produce incentive effects on teacher choice behavior. However, the mere existence of a policy with "incentive" in the title does not ensure that it will have the desired incentive effect. SASS is a rich data base for exploring such incentive phenomena. For example, do local education agencies (LEAs) with incentive pay for teaching in a shortage field attract more qualified teachers and fill a larger proportion of available positions than comparable LEAs without incentive pay? Is a generous benefit package an inducement to qualified teachers to select and remain in an LEA when other possible influences are controlled? Analyses of SASS can shed light on the degree to which such policies work as intended. This makes it possible to compare the relative cost effectiveness of alternative incentive policies, all of which should be useful information to education policy makers.

In contrast with policy-based incentives, inherent incentives are not manipulated in an effort to influence teacher career decisions. These naturally occurring circumstances can nonetheless be influential. Incentives of this type can also be examined in the SASS data base. For example, inherent incentives might be operating in a teacher's decision to transfer from an urban to a suburban LEA. Perhaps it is to secure desirable outcomes such as the opportunity to teach more academically able students and/or to work in a safer environment. Such inherent incentives could be in competition with the policy-based incen-

this distinction, a particular incentive may change from one category to another depending on its treatment by policy makers. Even with these complexities, the distinction is important because it permits one to identify and focus on specific incentives which policy makers have manipulated in an explicit effort to cope with problems. Questions about how well they work, and whether they are worth the cost, can then be examined.

tive of higher pay intended to retain teachers in the urban LEA. SASS data can be analyzed with multivariate techniques to isolate the influence of potential inherent incentives on teacher career choices.

One of the unique advantages of SASS is its capacity, in conjunction with the 1989 Teacher Followup Survey (TFS), to study incentive factors involved in the decision of some teachers to leave the profession (i.e., exit attrition). The TFS surveyed about 2500 teachers from the 1988 SASS who left teaching at the end of the 1987-88 school year. These data are particularly powerful for exit attrition studies because they provide data on teachers who have actually made a career decision to leave and acted on it. TFS data, as well as the base SASS, also makes possible the study of incentives involved in the decision of teachers to move from one school to another. Finally, SASS data similarly make possible the study of incentives involved in the decision of teachers to change their teaching assignment from one subject to another, whether or not they move to a different school.

Knowledge about forces underlying teacher career choices should be of significant benefit to education policy makers and administrators who attempt to cope with changes in the teaching force by creating policies and school environments that promote recruitment and retention of qualified teachers. Much can be learned from SASS (and TFS) about incentive and other factors associated with, and therefore predictive of, movement of individuals into, within, and out of the profession. Some of these can be manipulated by policy (e.g., incentive pay) and others by administrative action (e.g., creation of a supportive instructional environment). Although some of this is obvious or known from other sources, SASS can add a great deal and be particularly useful in analyzing the relative contribution of multiple determinants. Now that final SASS data tapes are becoming available, the kinds of teacher incentive studies described here can be initiated.

Pay Incentive Programs for Teachers

A variety of policy-based pay incentive programs have been instituted to attract and retain teachers in difficult-to-fill teaching assignments and to promote exceptional performance. SASS items solicited information from teachers about which of six pay incentives they actually received. Initial percentage tabulations (and their standard errors) based on weighted national data are reported here in Table 1 separately for teachers in public and private schools. This analysis is based on samples of about 40,000 teachers in the public sector and of about 6500 in the private sector. Weighted national estimates based on these data pertain to over 2,200,000 elementary and secondary teachers in the public sector and close to 300,000 teachers in the private sector.⁶

As seen in Table 1, the proportion of teachers receiving different pay incentives varies widely from a low of about one percent for attracting teachers to high-priority locations, to a high of about sixteen percent for salary increments associated with progression through career ladder levels, and these percentages are comparable for public and private school teachers. Since the percentages shown pertain only to those teachers who actually received the various pay incentives, these data do not address the question of what proportion of the total population of teachers are eligible for pay incentives of the various types. Nonetheless, in the instance of salary increases under career ladder programs, over 300,000 teachers in public schools and over 40,000 teachers in the private schools apparently benefited. Career ladders are obviously implemented on a large scale nationally.

Another finding readily apparent from Table 1 is that variations in the proportion of teachers receiving incentive pay under the six programs is remarkable similar in the public and private sectors. The major exception is that the use of merit

⁶Technical notes pertaining to the SASS data reported here are presented at the end of this report following the list of references. All comparisons cited in the text are statistically significant at the .05 level, unless otherwise noted.

TABLE 1

SASS Data on Teacher Recipients of Pay Incentives

Pay Incentive Program	Public Sector		Private Sector	
	Percent*	Std Error	Percent*	Std Error
1. For Added Responsibilities	9.2	.138	7.6	.406
2. Teaching in Shortage Field	1.3	.071	1.6	.184
3. Teaching in High-Priority Location	1.3	.086	1.1	.327
4. Career Ladder Progress	16.3	.234	15.0	.731
5. Individual Merit Pay	2.5	.129	4.6	.432
6. Group Merit Bonus	2.7	.134	4.2	.361

*The unweighted sample sizes on which these data are based are about 40,000 teachers in the public sector and about 6500 in the private sector. The statistics tabulated pertain to weighted estimates of over 2,200,000 public school teachers and close to 300,000 private school teachers in the United States.

bonuses for teachers (of both the individual and group types) is higher in the private than the public sector. In both sectors, however, the percentages are low in absolute terms (i.e., under five percent).

These data on teachers receiving incentive payments can be analyzed further to determine whether or not they have an incentive effect on career decisions, such as to reduce the incidence of attrition. For example, data from the TFS could be analyzed to examine attrition rates among recipients of various pay incentives versus comparable nonrecipients. A number of other analyses could be conducted such as to examine the satisfaction of incentive pay recipients with teaching and their future career plans, all in comparison with comparable nonrecipients. Another possible analysis of interest is to examine the degree to which teachers favor the six pay incentive programs and to compare how recipients and non-recipients differ in this respect. The following section presents data on the degree to which teachers nationally favor the six incentive programs listed in Table 1.

Teacher Favorability Ratings of Pay Incentive Programs

Favorability ratings of the six pay incentive programs are reported in Table 2 for public school teachers and in Table 3 for private school teachers, along with the standard errors of these ratings. The rating percentages reported are based on all teachers in the SASS sample, not just those who actually received one or more of the pay incentives. This analysis is also based on samples of about 40,000 teachers in the public sector and of about 6500 in the private sector. Weighted national estimates based on these data pertain to over 2,200,000 elementary and secondary teachers in the public sector and close to 300,000 teachers in the private sector.⁶

As shown in Tables 2 and 3, all six pay incentives programs received a majority of favorable ratings from both public and private school teachers: the combined percentages for "strongly favor" plus "mildly favor" ranged from 52% to 87% for public school teachers and from 62% to 92% for private school teachers.

TABLE 2
SASS Data On Public School Teacher Favorability
Ratings of Pay Incentives

Pay Incentive Program	Statistic ²	Favorability Rating ¹			
		Favor		Oppose	
		++	+	-	--
1. For Added Responsibilities	Percent	57.8%	28.7%	5.7%	6.9%
	Std Error	.33	.22	.14	.16
2. Teaching in Shortage Field	Percent	23.7%	28.6%	20.6%	27.0%
	Std Error	.20	.28	.25	.26
3. Teaching in High-Priority Location	Percent	40.5%	36.3%	12.3%	11.0%
	Std Error	.30	.29	.18	.19
4. Career Ladder Progress	Percent	39.1%	30.7%	12.2%	18.0%
	Std Error	.33	.27	.21	.24
5. Individual Merit Pay	Percent	27.0%	26.2%	16.5%	30.4%
	Std Error	.31	.29	.20	.28
6. Group Merit Bonus	Percent	33.5%	30.1%	14.7%	21.8%
	Std Error	.28	.29	.18	.24

¹The codes used for favorability ratings represent the following questionnaire responses: ++ = strongly favor; + = mildly favor; - = mildly oppose; -- = strongly oppose.

²The unweighted sample sizes on which these data are based are about 40,000 teachers in the public sector and about 6500 in the private sector. The statistics tabulated pertain to weighted estimates of over 2,200,000 public school teachers and close to 300,000 private school teachers in the United States.

TABLE 3
SASS Data on Private School Teacher Favorability
Ratings of Pay Incentives

Pay Incentive Program	Statistic ²	Favorability Rating ¹			
		Favor		Oppose	
		++	+	-	--
1. For Added Responsibilities	Percent	60.6%	31.1%	5.3%	2.9%
	Std Error	.84	.73	.35	.30
2. Teaching in Shortage Field	Percent	27.6%	34.7%	20.7%	17.0%
	Std Error	.97	.91	.75	.65
3. Teaching in High-Priority Location	Percent	44.2%	37.4%	12.0%	6.4%
	Std Error	.85	.82	.55	.38
4. Career Ladder Progress	Percent	56.5%	31.3%	7.0%	5.2%
	Std Error	.75	.73	.46	.31
5. Individual Merit Pay	Percent	41.6%	32.4%	14.1%	11.8%
	Std Error	.85	.91	.58	.58
6. Group Merit Bonus	Percent	42.6%	35.4%	12.9%	9.1%
	Std Error	.81	.84	.57	.51

¹The codes used for favorability ratings represent the following questionnaire responses: ++ = strongly favor; + = mildly favor; - = mildly oppose; -- = strongly oppose.

²The unweighted sample sizes on which these data are based are about 40,000 teachers in the public sector and about 6500 in the private sector. The statistics tabulated pertain to weighted estimates of over 2,200,000 public school teachers and close to 300,000 private school teachers in the United States.

The lowest ratings were received for pay incentives for teaching in a shortage field, while the highest ratings were received for extra pay for assuming additional responsibilities. Contrary to impressions given by an extensive literature, a majority of public school teachers even favor individual merit pay. Although a nominal majority (52%) of these teachers favored individual merit pay, this program received the largest number of "strongly opposed" ratings of any of the incentive pay programs. The second most favored incentive pay program for public teachers was teaching in a high priority location, while private teachers placed incentive pay associated with career ladders in second place.

Another particularly noteworthy comparison of the favorability ratings is that between individual merit pay incentives and schoolwide merit bonuses for all teachers. Some of the literature on individual vs. group rewards suggests that the schoolwide bonus should be favored clearly because it avoids individual competition and promotes group cooperation toward common goals. SASS data support this principle in that public school teachers favor schoolwide bonuses over individual merit pay by a clear margin (64% vs. 53%), while private teachers favor schoolwide bonuses to lesser, and not statistically significant, degree (78% vs. 73%).

The least favored (though still marginally on the favored side of neutral) of the six pay incentives by teachers from both the public and private sectors was for additional pay for teaching in a shortage field such as math and science (52% and 62%, respectively, for public and private teachers).⁷ One might speculate that the relative lack of enthusiasm for incentive pay for teaching in a shortage field is because it appears to be "unfair" to those doing the same work in a non-shortage field.

Comparisons between the favorability ratings of public and private school teachers reveal two general trends of interest.

⁷This low rating given by public school teachers, however, is neither statistically nor practically significantly different from the low favorability rating given to individual merit pay (52% vs. 53%, respectively).

The first is that the pattern of favorability ratings across the six pay incentives is quite similar for the two groups of teachers. For the most part, teachers from the two sectors agree on the relative favorability standings of the pay incentives. The second trend is that the private school teachers are, on the whole, considerably more favorably disposed to pay incentives than are public teachers. The data do not reveal why, but it is tempting to speculate that working in the private sector requires greater tolerance of incentive pressures and/or greater interest in working for incentive payoffs.

SASS data provide for further analyses of pay incentive favorability ratings such as tabulating these separately for teachers who receive the incentives and for those who do not (as distinguished in Table 1). It would not be surprising to find that teachers who receive pay incentives have more favorable attitudes about them.

Discussion

The description of SASS presented here and the preliminary findings on pay incentives for teachers indicate that this data base is a major resource for studying teacher incentive phenomena of particular importance to education policy makers and administrators. Data from the 1988 SASS are now becoming available to educational researchers for secondary analyses, and data from the 1989 TFS will soon be available as well. Current plans of NCES to administer SASS again in 1991 and semiannually thereafter will provide researchers with opportunities both to keep abreast of the current status of teacher pay incentives and to study trends over time.

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SASS TECHNICAL NOTES

Introduction

The data for this paper were collected on the Public School and Private School Teachers Questionnaires, two of seven questionnaires comprising the 1987-88 Schools and Staffing Survey (SASS), a survey developed by the U.S. Department of Education's National Center for Education Statistics (NCES), and conducted by the U.S. Bureau of the Census.

SASS was a mail survey which collected public and private sector data on the Nation's elementary and secondary teaching force, aspects of teacher supply and demand, teacher workplace conditions, characteristics of school administrators, and school policies and practices. The seven questionnaires of the SASS are as follows:

1. The Teacher Demand and Shortage Questionnaire for Public School Districts (LEAs).
2. The Teacher Demand and Shortage Questionnaire for Private Schools.
3. The School Administrator Questionnaire.
4. The Public School Questionnaire.
5. The Private School Questionnaire.
6. The Public School Teachers Questionnaire.
7. The Private School Teachers Questionnaire.

Sample Selection

All 56,242 public and 11,529 private school teachers in the teacher samples were selected from the 9,317 public and 3,513 private school samples.⁸

A list which included all full-time and part-time teachers, itinerant teachers, and long-term substitutes was obtained from each sample school. Within each school, teachers were stratified by experience; one stratum included new teachers, and a second stratum included all other teachers. New teachers were those who, counting the 1987-88 school year, were in the first, second, or third year of their teaching career in either a public or

⁸ The other SASS samples were as follows: 5594 public school districts, and the administrators (principals) of schools in the public and private school samples.

private school system. Within each teacher stratum, teachers were sorted by subject (General Elementary Education, Special Education, Mathematics, Science, English, Social Science, Vocational Education, other).

The public and private school teacher samples was designed to include a basic sample and a Bilingual/ESL(English as a Second Language) supplement. The bilingual/ESL supplement included teachers who use a native language other than English to instruct students with limited English proficiency (bilingual) and teachers providing students with limited English proficiency with intensive instruction in English (ESL). The supplement was funded by the Department of Education's Office of Bilingual Education and Minority Language Affairs (OBEMLA) in order to obtain more reliable estimates of bilingual/ESL education teachers.

The basic sample of teachers required for each of the public and private school strata was allocated to the sample schools in each stratum so that the teacher weights were equal. The specified average teacher sample size for each sample school (4, 8, and 6 teachers for each public elementary, secondary, and combined school, respectively; and 4, 5, and 3 teachers for each private elementary, secondary, and combined school, respectively) was then allocated to the two teacher strata to obtain an oversampling of new private school teachers at a fixed rate, and proportional allocation of public school teachers. Finally, a systematic sampling scheme was then applied to select the basic sample within each teacher stratum. An independent systematic sampling scheme was applied to bilingual teachers in each sample school to select the bilingual supplement. To control the number of teachers in each of the six bilingual strata (California, Texas, Florida, Illinois, New York, and all other States), the supplement was subsampled systematically with equal probabilities by stratum. Teachers selected in both the supplement and the basic sample were unduplicated so that each teacher appears only once.

The sample sizes were as follows:

-Public nonbilingual	53,394	-Private nonbilingual	11,248
-Public bilingual	2,848	-Private bilingual	281

Data Collection

The Teachers Questionnaires were mailed to the sampled schools in February 1988. Approximately 10 days after this mailout, a letter was sent to the survey coordinator in each school identifying the school's sample teachers and requesting the coordinator to remind the sample teachers to complete and return their questionnaires. Approximately six weeks after the mailout, a second set of questionnaires, for sample teachers who had not returned the first questionnaire, was sent in a package to the school coordinators for distribution to nonresponding

teachers. During the time of this second mailout, each coordinator was telephoned and asked to remind those teachers who had not returned the first questionnaire to complete the second one and mail it back. A telephone follow-up was conducted during April, May, and June. Due to the large number of nonrespondents and the necessity for completing the follow-up prior to the closing of schools for the summer, only a subsample of nonresponding teachers was included in this effort. This subsample of nonresponding teachers had their weights adjusted to represent the nonresponding teachers who were not selected for the followup.

Questionnaire Response Rates

Weighted response rates were 86.4 percent for the Public School Teachers Questionnaire and 79.1 percent for the Private School Teachers Questionnaire.

Item Description

The Public and Private School Teachers Questionnaires are almost identical, and are available from NCES and/or the author.

Effects of Item Nonresponse

There was no explicit imputation for item nonresponse. Not imputing for item nonresponse leads to a bias in the estimates. In tables which present averages, the nature of this bias is unknown.

Standard Errors

The estimates in these tables are based on samples and are subject to sampling variability. Standard errors were estimated using a balanced repeated replication procedure that incorporates the design features of this complex sample survey. The standard errors provide indications of the accuracy of each estimate. If all possible samples of the same size were surveyed under the same conditions, an interval of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the universe value in approximately 95 percent of the cases. Note, however, that the standard errors in the tables do not take into account the effects of biases due to item nonresponse, measurement error, data processing error, or other systematic error.

Definition of Teacher

For purposes of this survey, a teacher was any full-time or part-time regular teacher whose primary assignment was teaching in any teaching field in any grade K-12. Itinerant teachers were not included, nor were long-term substitutes who were filling the role of a regular teacher on an indefinite basis. Teachers classified as Elementary or Secondary had to meet one of the following conditions:

Elementary

1. A teacher who checked the "ungraded" option only in item 24 (which asks for grades being taught) and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ in the tape documentation).
2. A teacher who checked 6th grade or lower and no grade higher than 6th in item 24, or 6th grade or lower and "ungraded" and no grade higher than 6th.
3. A teacher who checked 6th grade or lower and 7th grade or higher and entered a primary assignment code of "01", "02", or "03" in item 16a.
4. A teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of "01", "02", or "03" in item 16a.
5. A teacher who checked 6th grade or lower and 7th grade or higher in item 24 and entered a primary assignment code of Special Education in item 16a and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ).
6. A teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of Special Education in item 16a and was designated as an Elementary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ).

Secondary

1. A teacher who checked the "ungraded" option only in item 24 and was designated as a Secondary teacher on the list of teachers obtained from each sample school (code "0", "1", or "2" for variable name TSUBJ in the tape documentation).
2. A teacher who checked 6th grade or lower and 7th grade or higher in item 24 and entered a primary assignment code greater than 03 in item 16a.
3. A teacher who checked 9th grade or higher, or 9th grade or higher and "ungraded".
4. A teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of "04" or higher but not Special Education in item 16a.
5. A teacher who checked 7th and 8th grades only in item 24 and entered a primary assignment code of Special Educa-

tion in item 16a and was designated as a Secondary teacher on the list of teachers obtained from each sample school (code "03" or higher for variable name TSUBJ).

6. All other teachers who checked 6th grade or lower and 7th grade or higher in item 24, or 7th and 8th grades only, and were not categorized above as either Elementary or Secondary.

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For More Information

For information about purchasing SASS data tapes on public and private school teachers, call Information Services, Office of Education Research and Improvement, U.S. Department of Education (1-800-424 1616).

For more information about these technical notes, contact Sharon A. Bobbitt, Elementary and Secondary Education Statistics Division, National Center for Education Statistics, U.S. Department of Education, 555 New Jersey Avenue N.W., Washington, D.C., 20208-5651, telephone (202) 357-6461.

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